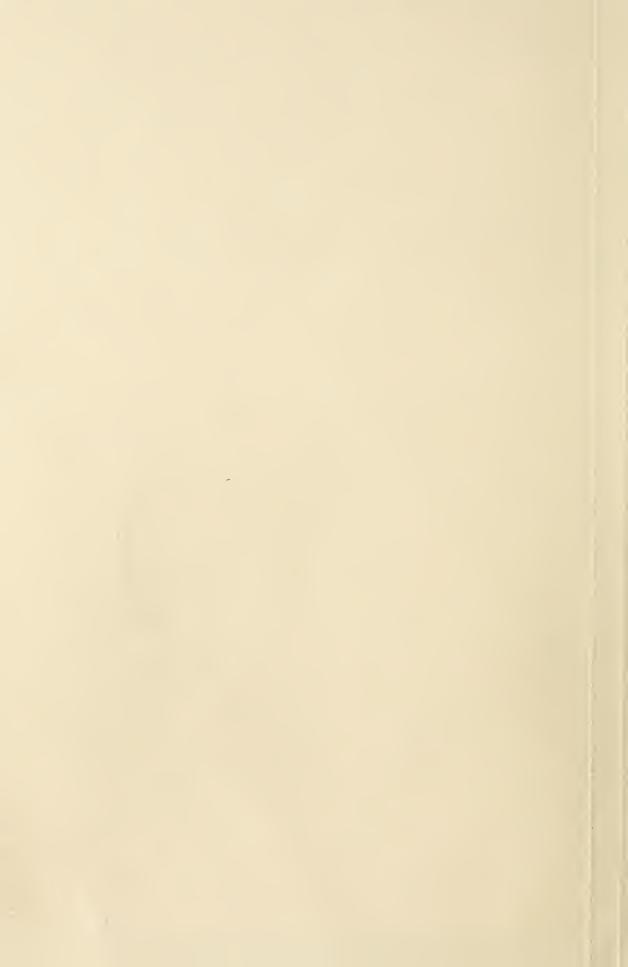
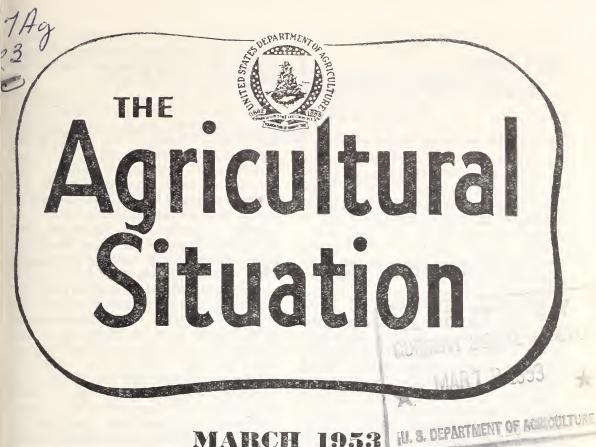
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The Agricultural Situation is sent free to crop, livestock, and price reporters in connection with their reporting work

A monthly publication of the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C. The printing of this publication has been approved by the Director of the Budget (January 18, 1952). Single copy 5 cents, subscription price 50 cents a year, foreign 70 cents, payable in cash or money order to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

A Letter to Crop & Livestock Reporters

WISH there was some way to have crop reporters meet each other. The more letters I get, and the more reporters I see, the more impressed I am with the swell bunch of people we work with.

Now I don't dare get into singling out any one person from any one place because I could never stop. Why, it would take a whole issue of *The Agricultural Situation* just to tell about the bunch out in Kansas. The same would hold true for Virginia, Maryland, South Carolina, South Dakota, New York, or a dozen other places. But I did have an experience the other day that was just unusual enough that I want to tell you about it.

A lady came into the office and said she wanted to see some of the folks that she has been dealing with for a good many years. I don't know her age, but she had reared a family of ten children on a farm in northern North Dakota, and she didn't look a day over 50. But I guess she was, because she has been a crop reporter for something like 40 years. Anyway, a visit with that erect, clear-eyed "young" lady was just like a breath of fresh air. We showed her all over the shop; and, believe me, you never saw anyone who was more alert. Our fellows had to be right on their toes to keep up with her questions and observations. You just can't help feeling good all over when such a keen and pleasant person comes in and really tells you something about the work we are doing together, and why she thinks it is important enough to stay on the job for 40 years.

This brings up another point that we ought to talk about as we start into the new crop season. You have probably filled out a questionnaire called the intentions to plant report. You'll get a report back on the results of that survey shortly after the 19th of March.

Some people have been criticizing that report. They say the plantings

don't turn out the way the report showed. Or maybe they complain that the report of spring wheat production is far off of the final figure.

Now you folks, as crop reporters, know that the March intentions report is in no way a forecast or prediction. It is strictly a report that summarizes what farmers are thinking or planning for the coming season. We try to get it out in time so that you can change plans if it looks as though it would be good business to do so.

When I was a county agent we used to have a number of local meetings along about this time of year discussing what we thought we should do. Some of my farmer friends there had a theory that you ought to increase acreage after a bad year. They argued that after a bad year most people would drop out; so that was just the time to jump in. The trouble was, too many got the same idea; and you know what happened—two or three years of over production and low prices, and then everybody got disgusted. We used to wish we could find out what plans were being made in other counties, and I tried to get the "dope" for them by calling up other county agents. didn't work too well because we didn't really have a base to start from: and it's pretty hard to get a comprehensive survey, even for your own county. Then, too, you really need to know about a lot of counties and States you just can't call on the phone. Well, this intentions report came along after my county agent days . . . and judging by the number of agents on our list to get that report, it must be helping.

Oh yes, about that spring wheat figure. The bushel figure in the March intentions report is not a forecast because, if for no other reason, the crop isn't planted yet. That bushel figure is only to show you what the volume would be if average yields were obtained on the acreage they say they will plant. You could multiply it yourself, but we try to save you the trouble. Anyway, the next time some guy tries to tell you that the spring wheat figure in the March intentions report is a forecast, you tell him that—oh well, you just tell him.

S. R. Newell, Chairman Crop Reporting Board, BAE

Cattle Numbers Rise ...

Reduction in Hogs, However, Expected to About Offset Increased Marketings of Cattle

HE REPORT of January 1 inventories released by the Bureau of Agricultural Economics showed an increase in cattle numbers for the fourth successive year. The increase during the past year was 7 percent, or about 6 million head, and brought the total to 93.7 million cattle and calves, a new high. Since turning upward 4 years ago, numbers have increased 17 million head.

Record Calf Crop Last Year—More Milk Cows

The increase in cattle numbers resulted from a record calf crop in 1952 and a relatively small slaughter in relation to the inventories. Imports were not a significant factor since both the northern and southern borders were closed by a quarantine for most of the year. Mexican cattle imports after the quarantine was lifted in September totaled only 128,000 head. Imports from Canada were less than 13,000 head.

The rise in cattle numbers featured an increase in milk cows—the first since 1945. Other classes of milk stock showed somewhat larger percentage gains than the 3 percent for milk cows. The big increases came on the beef side. Beef cows reached a new high of 22.5 million head, a rise of 9 percent, other calves and steers also showed gains of 9 percent, though this was a smaller rise than in the previous year.

While numbers were up substantially, the value of all cattle and calves was down 3.7 billion dollars from a year earlier. The record number this January was rated at 12 billion dollars, the third highest value. Reflecting declining cattle prices, the value per head

dropped from \$179 on January 1, 1952 to \$128 on January 1, 1953, the lowest since 1950.

Big Increases in the South

Cattle inventories increased in every State except Texas, where numbers were the same as on January 1, 1952. The biggest percentage increase was in the South Atlantic States, followed by the West North Central region. States showing the biggest percentage increases were Alabama, Louisiana, North Carolina, South Carolina, and Mississippi.

Drought caused liquidation of cattle in many sections of the Great Plains States. Even though most of these States show more cattle and calves than last January 1, there are some counties and districts in these States where cattle numbers are down from last year. The decreases, however, were not sufficient to offset increases in other parts of these States. Cattle marketings from Kansas and Oklahoma showed large increases over the previous year.

For Texas, last year was the second in a row that heavy marketings took place as continued drought forced reductions in the inventories of west Texas and the Texas Panhandle. Texas shipments of cattle and calves, while not as high as in 1951, were 8 percent higher than in 1950. shipments alone were nearly as high as 1951, but calf shipments held the total below 1951. While the rest of the country has made fairly rapid gains in cattle numbers since 1951, numbers have not changed much in Texas. Cattle inventories in New Mexico have not gained much either. As a matter

of fact, this is one of only two States where the January 1, 1953, inventory was below the 1942–51 average.

Comparing present inventories with the previous peak on January 1945, the South Atlantic States show a 25 percent increase and the Western States, 13 percent. The South Central States have 7 percent more cattle and calves than in 1945 in spite of the decrease for Texas. Outside of Texas and Oklahoma, the other States in this region show increases ranging from 12 to 29 percent. The North Central States have 8 percent more cattle and calves now than January 1, 1945, and the North Atlantic States have 5 percent more.

Increase This Year May Be Smaller— Slaughter Up

The big inventories of cows 2 years old and over point to another big calf crop in 1953. A somewhat further rise in cow numbers during 1953 is in prospect, although the increase in the total cattle inventory will likely be much smaller than in 1952. A substantial increase in slaughter of cows and heifers would need to occur before the rise in January 1 inventories of cows is completely halted. Cow and heifer slaughter has not yet risen much: slaughter of these classes under Federal inspection in 1952 was 42 percent of the total as compared with 44 percent in 1951.

Since cattle numbers turned upward in 1949, steers and other calves have increased from 19.3 million head to 26.1 million head on January 1, 1953. Steer slaughter was fairly high in 1952. With the large number on feed and higher inventories of steers and steer calves, steer slaughter under Federal inspection should exceed the previous record by a good margin. Slaughter of steers under Federal inspection was about 7.1 million head in 1952, about equal to the high of 1949.

Offsetting Factors and a Look Ahead

"The increase in cattle numbers," Secretary of Agriculture Ezra Taft Benson stated, in commenting on this report, "needs to be judged both in

New Study on Trade with Cooperatives

STUDY evaluating the opportunities for increased United States trade with Canadian cooperatives has been made by the U. S. Department of Agriculture, and published as Foreign Agriculture Report No. 71.

The report discusses the volume and kind of purchases that the Canadian cooperatives make in the United States, their methods of buying, and the commodities they would like to buy or sell in the United States. In so doing, it suggests ways of increasing both the volume and efficiency of trade between United States and Canadian cooperatives.

light of our increasing population and the marked downward adjustment in production of hogs. . . . Currently, marketing estimates indicate that the effect of the increase in cattle marketing on the Nation's meat supply in 1953 will be almost wholly offset by reduced output of pork."

Hogs on farms January 1, 1953 were down 14 percent and breeding intentions for the 1953 spring pig crop are reported to be down 13 percent. meat production in 1953 may not be much different from last year. ever, much depends on weather and feed conditions in 1953. The number of grazing animal units in the country increased about 4 percent during 1952 and is 6 percent under the all-time high in 1943. A continuation of the drought situation in the Great Plains States would result in further liquidation, thus increasing slaughter. the other hand, if ranges and pastures in the Southwest regain average or better condition, there will be a demand to restock in areas where cattle have been moved out during the last two years.

Arnold V. Nordquist Bureau of Agricultural Economics

Federal Rural Lands and How They Are Used

EARLY a fourth of the total land area of continental United States is land held by or under the jurisdiction of the Federal Government. In 1950, agencies in the Federal Government administered 456 million acres out of the total area of 1.9 billion acres. Most of it, however, is low quality land, its use being quite limited.

Federal land consists largely of reservations and remnants of the original public domain. Approximately 408 million acres, or 90 percent of the total, have never been in private ownership. Reservations of public domain for all purposes total 238 million acres, including about 56 million acres reserved or allotted for the benefit or use of American Indians. The other 170 million acres is vacant, unreserved and unappropriated land. It includes land that was passed over in the selection of homesteads, failed to attract buyers in the public, preemption and other land sales, and which was rejected by the States and railroads in their selection of in-lieu or indemnity tracts. In the main, it is the poorest land in the public domain. It has been withdrawn for classification and is now not available for private ownership, unless specific appraisal shows it is capable of supporting independent farm or ranch operations. Most of it is now administered in Taylor Grazing Districts.

In addition to the 408 million acres left over from the original public domain, there are 48 million acres that have been acquired by the Government for special public uses, or to prevent uses detrimental to public welfare. Extensive areas have been acquired for military and flood control purposes, and to establish national forests, parks, wildlife refuges, and other special use areas. A part of this acreage has been bought in some areas to block in administrative units of reserved public domain, chiefly as a way of preventing conflicting or detrimental uses. Nearly a fourth of the acquired land was bought during the "dust-bowl"

First of Three Articles On Public Lands

THE Census of Agriculture and the various statistical series of the United States Department of Agriculture regularly report on the nature and extent of the ownership and uses of land in farms, which is about 60 percent of the land area of continental United States. No similar arrangement has yet been made for regular and systematic reporting on the 40 percent not in farms. A large part of the land not in farms is in public ownership and much of it is used for agricultural purposes.

In order to provide a more complete picture of agricultural land use in 1950, the Bureau of Agricultural Economics has made an inventory of the uses of rural land in Federal and State ownership. This Bureau also has assembled from numerous sources information concerning present and potential contributions of this public land to agricultural production. Results of the study were published in USDA Circular 909, "Federal and State Rural Lands, 1950."

The accompanying article gives some of the findings on the extent and purposes of Federal land ownership, and major uses now being made of the Federal lands. Present and potential uses of Federal land for farming and ranching will be discussed in an early issue of the *Agricultural Situation*. A third article will report on the Stateowned land.

and "depression" period in connection with the submarginal-land retirement program.

Who Manages This Land?

Approximately 95 percent of the Federal land is administered by the Departments of Interior and of Agriculture. In 1950, Interior administered 264.4 million acres and Agriculture administered 168.4 million acres. The National Defense Department administered 21.4 million acres. The remainder was administered by other agencies, the largest holders being the Atomic Energy Commission and the Tennessee Valley Authority. Interior's Bureau of Land Management admin-

istered 179.1 million acres, or 39.3 percent of the total, and the Forest Service of the Department of Agriculture managed 160.6 million acres, or 35.2 percent of the total. The Bureau of Indian Affairs of Interior had jurisdiction or guardianship over 57.3 million acres, or 12.6 percent of the total.

The rural land holdings of the Federal Government include more than 3,000 administrative or special use areas. There are 244 national forests and related areas, 177 national parks and monuments, 58 Taylor Grazing Districts, around 250 wildlife areas, some 260 Indian reservations, 33 land utilization projects, and more than 1,500 military sites. The areas vary in size from an acre or less, for such uses as radio sites and historic monuments, to several million acres in some of the larger forests and parks.

Most of it in the West

In 1950, Federal rural land holdings were reported in 1,796 of the 3,069 counties in the United States. There were Federal holdings in every county in 11 States; and more than half of the land area in 183 counties, in 22 States, was in Federal ownership.

Most of the Federal land in 1950 was located in the arid, semiarid and mountainous regions of the Western States. The Northeast, Lake, and Corn Belt States contained only 3.1 percent of the total Federal acreage. The Appalachian, Southeast and Delta States contained 4.3 percent. The remaining 92.6 percent was located in the 17 Western States. The Mountain States contained 67.8 percent, the Pacific States 20.7 percent, and the Plains States 4.1 percent.

In the Mountain States, more than half of the land area was in Federal ownership. And in Nevada, which had the highest proportion in Federal ownership, 84 percent of the land area was federally owned.

The Federal land included 187.8 million acres in forest and woodland areas, and 267.8 million acres in open-land areas. The forest and woodland areas consisted of 89 million acres of commercial forest, 12.4 million acres of forest in parks and other nonforest reserves, 75.6 million acres of other noncommercial woodland, and 10.8

Primary Uses, Federal Rural Land Continental United States, 1949

Special Public Uses: Park and recreational Wildlife Military Reservoir and water supply Miscellaneous other	4, 187 18, 975 11, 502
Total Timber Production Farming Grazing Barren and Wasteland	138, 330 3, 425 230, 185
Total Federal Land	455, 635

million acres of barren and wasteland. The open-land areas consisted of 7.5 million acres of potential cropland, 248.4 million acres of grasses, herbs, shrubs and other open range, and 11.9 million acres of barren and wasteland. A total of 432.9 million acres was usable land. Including open grassland and browse in forest and woodland area, 325 million acres of the Federal land were capable of supplying forage for domestic livestock and wild game.

Many Different Uses

Most Federal rural land is administered under the principle of multiple use. In the case of land in specialuse areas, primary consideration is necessarily given to the uses for which the land was reserved or acquired. Some primary uses preclude other uses. Generally however, multiple uses are permissable. Even the national park areas—which must be preserved in their natural state—provide recreational areas, watershed protection, and limited grazing for wild game and domestic livestock. Forest and woodland areas are used for recreational, wildlife, and watershed purposes, in addition to timber production; and they may also provide grazing for livestock. Big-game and wildlife areas cannot be opened to unrestricted grazing, but at times they can be used for seasonal grazing by livestock. This is in addition to incidental forestry, recreational, watershed and other uses.

Except for areas set aside for intensive recreational, military, institutional and other purposes, most Fed-

Outlook Highlights

MARCH 1953

BUSINESS prospects appear generally optimistic for the next several months. Investment intentions and construction prospects point to a continued high level of economic activity. Defense activities are also expected to expand somewhat further before reaching a leveling-off point.

Total retail sales were off only slightly in January, after adjustment

for seasonal differences.

Automobile purchases early this year were at high levels. Output of cars and trucks in January was more than 50 percent greater than the output of a year earlier.

Prices Generally Stable, Except for Farm Commodities

A strong demand for consumer goods, heavy equipment, defense materials, and new construction are supporting production output at new postwar highs... Production of goods and services has expanded rapidly

eral land is devoted to two or more simultaneous uses. Only the *primary* uses are shown in the above table.

These primary uses tell only a part of the story. Under multiple-use management, provisions were made for recreational uses of more than 20 million acres in forests, reservoir and water-supply areas, and fish and game reserves. Around 128 million acres in forests, parks, water-supply and other reserves are under secondary wildlife management. Special attention is given to watershed protection in the management of more than 240 million acres of the Federal land.

Nearly 234 million acres of the Federal rural land in continental United States was primarily used for farming and grazing in 1949. Grazing was a supplementary use for an additional 75 million acres. Less than 5 percent of the suitable land was withheld from farming and grazing because of higher priority uses.

Robert D. Davidson
Bureau of Agricultural Economics

enough to hold prices fairly stable for most products, although domestic demand and economic activity are at record levels. Except for agricultural products, average prices at both wholesale and retail have held stable over the past 4 months.

Farm product prices eased off a little further from mid-January to mid-February . . . explained by the presence of plentiful supplies and a relatively small export demand.

Cost Items Steadily Up

Prices of most nonagricultural products purchased by farmers were steady to slightly higher during 1952. Average prices for production items, excluding feed and livestock, continued to rise gradually during 1952 and early 1953.

Prices paid by farmers for farm machinery have risen steadily in the past several years, averaging higher than the year before in each year since 1940. Dealers' sales of tractors and farm implements in 1952 are estimated to be somewhat below 1951, with sales in the October-December period substantially lower than a year earlier.

Little Rise Expected in Prices For Fertilizers and Autos

Prices paid for fertilizer in 1952 were steady at levels about 9 percent above pre-Korea and 3 percent above 1951. In recent months, there appears to have been some decline in preseason purchases compared to a year ago. Supplies of fertilizer probably will increase in the 1952–53 season by possibly a tenth or more and prices may average little if any higher.

Prices of *motor vehicles* in 1952 were about 5 percent above those of the preceding year. Assemblies of both automobiles and trucks are expected to increase in 1953 and little upward pressure on prices is expected.

Prices for farm supplies in 1952 were 7 percent above a year earlier, but prices for motor supplies and building and fencing materials were up only slightly. Supplies of these items are expected to be ample in the coming

year with no marked price rises indicated.

Interest and tax charges per acre continue to rise. For this year, interest charges are estimated at 8 percent above 1952 and tax charges are up about 5 percent from last year.

Prices paid for family living items purchased by farmers rose to a peak in mid 1952 but have since averaged slightly lower. Lower prices for food were largely responsible for the decline. Prices for other groups in the rural family living index have been steady in recent months.

Livestock and Meat

Prices for the higher grades of steers declined sharply after January 1. All kinds of cattle are now priced lower than a year ago. Lambs also are down from last year, but hog prices are up a little.

More general stability in prices seems likely in months ahead, chiefly because hog slaughter may be reduced as much from last year as cattle slaughter is increased. However, this will be true only if range and feed conditions are average or better. Drought-speeded marketings of cattle accentuated the downward price movement last summer and fall. Another drought could depress prices again this year.

More Milk This Year

Milk production is not likely to continue many weeks at the present record annual rate. But output for the entire year, 1953 probably will exceed substantially the 115.1 billion pounds produced in 1952. The number of cows and heifers on farms January 1 was up 3 percent from a year earlier and practically all areas of the country experienced an increase in milk flow this winter.

Poultry and Eggs

Egg production probably will rise seasonally in the next month or 2, but not so high as last year. The 4 percent reduction from last year in the number of potential layers on farms February 1 will hold egg production this spring below the levels of a year

ago. A continuation throughout the spring season of the strong demand for breaking, plus the impact of good consumer demand upon the prospective decreased supply, is likely to hold egg prices through the first 6 months of 1953 at levels higher than a year earlier.

Prospects for Turkey Production

Turkey growers' January intentions were to raise 23 percent fewer small turkeys in 1953 than in 1952, and 3 percent fewer large turkeys. The Department of Agriculture bought 6 percent (by weight) of the 1952 turkey crop under its surplus removal program, confining its purchases mostly to large turkeys. If the decline in the production of large turkeys is no greater than indicated by the intentions, the resulting 1953 supply of large turkeys will exceed the 1952 supply of large turkeys remaining after the USDA purchases.

Feed Grains

The larger supplies of feed grains in the Corn Belt, mild weather this winter, and lower livestock prices have all contributed to the general weakness in feed prices. Prices of soybean meal, tankage, and meat scraps have been relatively lower than most other high-protein feeds this winter, with fewer hogs and chickens on farms at least contributing to the weakness.

Wheat

quantities of wheat The large placed under the support programs are expected to strengthen the wheat market and cash prices are likely to rise above February levels. About 375 million bushels were under support on January 15 and farmers had until January 31 to make applications for loans. In addition to the deliveries of loan wheat to CCC after April 30, the CCC has inventories of previous acquisitions, which on January 22 totaled 126 million bushels. Because of the large quantities expected to be owned by CCC next July 1, supplies of "free" wheat in the carryover, estimated at 560 to 575 million bushels, are likely to be very small.

(Continued on page 16)

Weed Killers

In the Cotton Patch

NE OF THE most costly and tiresome operations in the growing of cotton is the hoeing or "chopping" to control weeds and grasses. All other operations, including harvesting, have been mechanized successfully; not only experimentally, but also under farm conditions. Control of weeds, however, still remains largely a hand job. Today, cotton growers have a hard time finding enough hand labor to do the hoeing needed to keep down the weeds that flourish in their cotton fields. The full economies inherent in mechanization will not be realized until "hoe" labor requirements are completely eliminated.

Some Progress—Research Goes On

But cotton farmers are finding hope in the development of chemical weed killers which can be used in connection with tillage operations. These killers are still more or less in the experimental stage, although some farmers have used certain compounds successfully on limited acreages. Research in their use, and in the development of new killers, continues.

These weed killers are of two types—pre-emergence chemicals which are sprayed on the row at the time cotton is planted and post-emergence herbicidal oils which are applied after the cotton seedlings emerge from the ground.

When it comes to pre-emergence treatment, here's how it's done.

A press wheel or roller is attached to the planter to smooth the bed just ahead of the nozzle that sprays the chemical killer on top of the row, just behind the planter. For best control of weeds, the drill area is left undisturbed during cultivation.

Weather conditions and the way the weed killer is applied are important. Improper application can result in damage to the stand of cotton. It may even mean that replanting will be necessary.

The post-emergence treatment works like this. The oils are sprayed into the row at the base of the cotton plant. Care must be taken to keep the spray from touching the leaves of the cotton plant or damage will result. Equipment for this operation can be mounted on the same tractor with the cultivator. Sweeps can be used to clean the middles between the treated bands.

Some hoeing is necessary even with the chemical killers. But the amount of hoeing is greatly reduced. The chemicals most commonly used for spraying at planting time are the dinitro compounds. Chloro-IPC has been used in a small number of cases.

Dinitro compounds can be used at the rate of 1½ pounds per acre in 14 gallons of water, applied to a 14-inch band of soil. If enough is used to do the best job of weed control—2½ pounds per acre—farmers risk their stands of cotton. Relatively large amounts of chloro—IPC can be applied per acre without injuring the stands of cotton. The South Carolina Agricultural Experiment Station suggests that 2.5 pounds of this killer be used per acre.

Pre-emergence killers control weeds for only a limited time. The South Carolina Agricultural Experiment Station, in its Circular 84, lists 3 to 5 weeks as the control time when $1\frac{1}{3}$ pounds are applied per acre.

Neither the chemicals nor the oils control all the weeds. They are not effective against perennial weeds such as Johnson grass, nut grass, or trumpet vine, although they will slow regrowth.

Examples of Their Use

In 1951, R. N. Aldridge used a spray at planting time on 285 acres of his Mississippi Delta farm. His cotton was hill-dropped and he thus saved enough on seed to pay for the chemical he used. He estimated that the new treatment would cut his hoe labor by 75 percent.

A study on the Economics of Weed Control in Cotton (with Emphasis on the Use of Chemicals) was made by Grady B. Crowe of the Bureau of Agricultural Economics and John T. Holstun. Jr., of the Mississippi Agricultural Experiment Station. This study, made under authority of the Agricultural Marketing Act of 1946 (RMA, Title II) and soon to be issued by the Mississippi Agricultural Experiment Station, reports information on weed control collected from a sample of 30 farms in the Yazoo-Mississippi Delta in 1952 and from pilot research fields under controlled conditions. The farm study covered the operation of more than 15,000 acres of cotton; and in this study 16 different combinations of chemical, mechanical, and hand methods of controlling weeds and grasses were observed.

Trouble With Stands

In 1952 results of the pre-emergence treatments were rather disappointing. Stands were lost on almost half of the acreage of cotton treated, and farmers believed that the chemicals caused a great deal of the damage. But on a little more than 90 percent of the treated acreage on which stands were not destroyed, weeds were controlled to some extent for 2 to 6 weeks.

These pre-emergence treatments ran into money. On the farms studied, the cost of the machine used to apply the chemical killers ranged from \$75 to \$385. Costs of machine operation averaged \$0.24 per acre or \$0.72 per hour. Cost of materials amounted to approximately \$3.85 per acre.

Use of the oil sprays after the cotton had emerged from the ground was less widespread. However, less damage to cotton was reported and no stands were lost because of their use.

Used alone, three applications of oil usually controlled weeds for around 4 weeks. Used with the chemical killers, control by the latter was extended about 2 weeks.

It takes "know-how" to apply the oil sprays properly. The dosage must be exact. Most farmers lack the equipment needed to apply them. This equipment is similar to that used for the pre-emergence treatments. Some of it may be used interchangeably.

Machines cost an average of \$235; many of them are built on the farm.

Cost of operation per acre averaged \$0.47 and cost per hour \$0.54. Oil, in sufficient quantity for three applications per acre, cost approximately \$3.75.

Some Hand Labor Still Needed

These Mississippi farmers were not able to do away with all hand labor in controlling weeds, but they did succeed in reducing considerably the amount needed. Cross-plowing and flame cultivation, combined with the chemical weed-killer treatments helped. Labor for hoeing ranged from 18 hours for a combination of hilldrop planting, pre-emergence treatments, application of oil, flame cultivation, and hand hoeing, to 61 hours for drill planting and hand hoeing. Crossplowing was the cheapest method of controlling weeds but this method presents difficulties when it comes to mechanical harvesting. Use of oils and of chemical killers, when stands of cotton were not affected, also reduced materially the costs of controlling weeds.

The weed-control program must be fitted into the farming systems that exist. Farmers are cautioned to try the chemical killers and the oils on only a limited acreage at first. As technical "know-how" is acquired and better equipment for applying them is developed, their use can be expanded.

Grady B. Crowe Esther M. Colvin Bureau of Agricultural Economics

On Controlling Jobacco Worms

THE insecticide TDE is a highly effective and relatively safe-to-use chemical in controlling hornworms on growing tobacco, USDA entomologists report. The use of TDE alone, and in combination with the insecticide, parathion, is described in new USDA leaflet 336, "Control of Hornworms on Tobacco."

Do Tenure Practices Retard Machine Harvesting of Cotton?

THE MOST recent available data show that five States have made considerable progress in machine harvesting of cotton. These are California which had 53 percent of its crop machine-harvested in 1951; Arizona, which had 26 percent; Texas, 19 percent; Oklahoma, 13 percent; and Louisiana, 11 percent.

Experience Gained in Texas Plains

A good portion of the Texas record of machine cotton harvesting has been established in the High Plains, where conditions are especially favorable for use of stripping equipment. In February 1952, the Bureau of Agricultural Economics, in cooperation with the Texas Agricultural Experiment Station, made a farm labor survey in the Texas High Plains which revealed some characteristics of the machine-harvesting development that were not generally known previously. One of these, the influence of land tenure upon machine harvesting, may be prophetic of what is to come in other cotton areas not yet mechanized.

Background for the survey was furnished by earlier research performed under BAE-Experiment Station auspices and published in such reports as Bulletin 735 of the Texas Agricultural Experiment Station, "Economics of Mechanical Cotton Harvesting in the High Plains Cotton Area of Texas." This study showed that machine harvesting increased the net returns of the farm during the period 1947–49, but that under the customary leasing system it benefited the tenant but not the landlord.

Tenant Saves Labor Costs, Owner Squeezed By Grade Loss

The explanation lies in the methods commonly used in the High Plains when the crop is harvested mechanically. Defoliation of the cotton plants, a prerequisite to efficient operation of

Background of the Area Studied

NDER conventional methods of cotton harvesting the Texas High Plains is one of the Nation's major labor-deficit areas during the harvest peak, requiring the services of thousands of migratory workers each fall. Farms average slightly more than 200 acres in cotton, and machinery investments are far above the average for the South. This holds for tenants as well as full owners. It is an area of fairly big operations and is in many respects different from other sections of the Cotton Belt. Because this area has moved along relatively fast toward machine stripping, it is considered to be a good locale for studying the transition from hand labor to a fully mechanized harvest.

the equipment, is ordinarily accomplished by natural means. A comparatively early frost (the average annual date of the first killing frost is November 4) usually removes the leaves in about 10 days. Meanwhile, however, the mature crop must be left in the field for several weeks, deteriorating at a rate of about one grade in quality. Some further loss is sustained by shattering during the operation of the machine itself.

Savings in the wage bill effected by mechanical harvesting usually more than compensate for these grade and ground losses. But under the "thirdand-fourth" system of renting, the tenant is wholly responsible for the cost of harvesting and thereby reaps all the benefit. In 1947-49 returns to the landlord averaged between \$3 and \$4 less per bale on machine-stripped cotton than on hand-harvested cotton. Farms in the High Plains average close to 200 acres in cotton, with yields running as high as a bale to the acre. Thus, the returns of the average landlord may be diminished by \$600 to \$800 when his tenant machine-strips the crop.

In Lubbock and Crosby Counties, where the survey was made, 40 percent of the entire 1951 cotton crop was

harvested by machine. But on farms operated by full owners 68 percent of the crop was machine harvested, whereas on tenant-operated farms the figure was only 26 percent. See table.

The data were even more striking when the sample farms were classified both by tenure of the operator and by size. Large farms were defined as those having more than 250 acres in cotton, medium-sized farms as those with 125-250 acres in cotton, and small farms as those with less than 125 acres in cotton. The optimum acreage for stripper use is about 200 acres (under irrigation). Therefore, it was in the medium-sized group of farms that the highest percentage of the crop was machine harvested. On those of medium size operated by full owners, 82 percent of the cotton crop was machine harvested, compared with only 39 percent on farms of corresponding size operated by tenants.

Thus, on farms in the same size class, between two and three times as much of the crop was machine-harvested by full owners, as by tenants. On large farms, 53 percent of the crop was machine-harvested by full owners and 28 percent by tenants. On small farms, 33 percent was machine-harvested by full owners and 11 percent by tenants.

Neither large farms nor small farms, regardless of tenure, made as much use of strippers as did farms in the medium sized group. Less use was gen-

erally made of strippers on large farms than on others since the operators of large farms could attract and hold migratory labor crews with greater ease and, perhaps, on somewhat more favorable terms. Small farms, on the other hand, utilized family and local labor to a greater extent than did the others and, because of limited acreage, could neither justify the purchase of strippers nor the hiring of custom operators.

Other than tenure, no observable factor figured significantly in the different rates of machine use on those farms falling within the range of economical operating scale. thought that irrigation might influence these rates, but the difference in the proportion of cotton stripped— 39 percent on irrigated land and 43 percent on dry land-was comparatively insignificant. There was general shortage of machine strippers as 218 of the 324 farms in the sample were equipped with the machines. Moreover, custom-stripping service was available to operators who did not own strippers, as indicated by the 28 percent of the stripper owners who operated their equipment on other farms. The cost of a stripper in itself could hardly be regarded as a deterrent to its use. At the time of the survey the machines could be bought for approximately \$1,000, making its cost a rela-

(Continued on page 14)

Method of harvesting cotton, by tenure of operator and size of farm, Lubbock and Crosby Counties, Texas, 1951

Tenure and farm size	m / 1	Number and proportion of bales							
	Total bales	Hand-pu time		Hand-pull time		Harvested by machine			
Full owners Large farms Medium farms Small farms Tenants Large Medium Small	4,729 8,214 1,287 22,163 9,125 6,282	Number 3,653 1,737 1,320 596 14,227 5,292 3,107 5,828	Percent 26 37 16 46 64 58 50 86	Number 886 463 161 262 2,148 1,237 705 206	Percent 6 10 2 21 10 14 11 3	Number 9,691 2,529 6,733 429 5,788 2,596 2,470 722	Percent 68 53 82 33 26 28 39		

Playing It Safe on the Farm As We Grow Older

farmers have learned not to take chances with farm machinery and animals. They don't take some of the unnecessary chances that young people take. But over-age persons do continue to take a fairly active part in farming long after the ordinary age of retirement of city people, which increases their chances of injury.

Moreover, more and more farm work is now done with hazardous power machinery. Older people are more likely to be injured because of poor eyesight, impaired hearing, lack of agility, or other factors. Then, too, their bones don't mend as quickly as they did when they were younger.

Accidents Increase After 55

Farmers past 55 years of age have higher accident rates. This is especially true with respect to work accidents. As we grow older, our legs seem to weaken first. Often the unsteady limbs of the aged contribute to falls on uneven ground or slippery surfaces.

Burns claim the lives of many aged people in rural areas. Building fires with kerosene is a common cause of these burns. Unguarded fireplaces or heaters also result in many accidents to older people. A metal screen in front of an open fireplace prevents flying sparks and keeps both young and old from falling into the fire.

An even more important cause of fatalities to the aged is the automobile. Many older people with impaired sight or hearing are run over by motorists as they attempt to cross highways near their homes. Sometimes older people, as drivers, are responsible for accidents because they do not think and act quickly in emergencies. Animals, too, cause many injuries to older people.

A recent study in Indiana revealed that a rather high proportion of accidents occurs near 10 a.m., with a lesser peak at about 3 p. m., and another at about 6 p. m. Motor-vehicle accidents increase greatly at dusk.

The problem, then, of conserving the remaining years of usefulness of our older people on the farm is for them to find out more about the "why" and "when" of accidents. If more accidents on farms occur at about 10 a. m. than at any other time, there must be some reason why. Is it fatigue from a long morning's work? Should the work be planned to have a break in the work or a snack at that time?

Reduce the Hazards-It Pays

With automobiles driven at higher speeds, the danger of injury to pedestrians walking along highways has increased. Traffic counts reveal that an increase in country-road traffic begins in the late afternoon. This, then, is the time to be especially watchful. We should form the habit of walking on the left facing oncoming traffic. Before crossing the highway we should remember the railway crossing warning: "Stop, Look and Listen."

Safety as a factor in agricultural production has been slowly catching on. Interest in farm safety has never been higher, but it still has a long way to go. Liability laws hold a farmer to a greater degree of accountability for accidents to visitors or employees if he is negligent in permitting hazards to exist on his farm. This is one of the reasons why it is good economics to clear out the hazards—the pitfalls on the farm.

Our older farmers might find the activities of a local community safety committee both interesting and beneficial. There, we learn about the accidents of fellow members—the causes and means of preventing these accidents. There, we can make a real contribution from our own experience, as well as learn more about how to plan our own safety so that our declining years will be both fruitful and happy.

John D. Rush Bureau of Agricultural Economics

Do Tenure Practices Retard Machine Harvesting of Cotton?

(Continued from page 12)

tively minor in the total equipment investment of the farmers in this area.

The labor study was not designed to analyze tenure relations. It revealed, however, that adjustments in lease arrangements probably will have to be made if machine harvesting is to become a general practice on rented farms. In short, an "institutional lag" is slowing down the achievement of the widely accepted goal of a fully mechanized cotton harvest on the High Plains.

The specific methods used by landlords in 1951 to encourage hand-pulling, or to discourage machine stripping, were not ascertained. It is an easy matter, however, to control by contract the approximate ratio of machine use to human labor in the cotton harvest.

Other studies in recent years have demonstrated that, under optimum conditions, machine stripping is economical on the High Plains. study shows that owner-operators are using mechanical harvesting much more than are tenants. It suggests that both landlord and tenant might benefit by modifying their lease agreement so as to share the savings in costs, or the higher net returns, associated with mechanical harvesting.

The needed correction can be obtained by a relatively minor shift in (Continued on page 16)

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

	Ave	erage	Feb.	Ten	Tab	Effective	
Commodity	Base period price 1	period 1947-		Jan. 15, 1953	Feb. 15, 1953	parity price Feb. 15, 1953 2	
Basic commodities: Cotton American upland (pound)cents_	8 12. 4	31. 21	36.88	29.79	30. 19	33.85	
Wheat (bushel)dollars_	4 . 884	2. 14	2. 18 5. 22	2. 10 6. 43	2.05 6.54	2.41	
Rice (cwt.) dodododododo	1.92	5.38 1.64	1.65	1.48	1.43	5. 38 1. 75	
Peanuts (pound)cents	4.8	10. 2	10.3	10.9	11.0	13.1	
Potatoes (bushel) dollars Butterfat in cream (pound) cents	5.589	1.60	2.05	2.06	1.79	1.65	
Butterfat in cream (pound)cents	26. 7	71. 2	82. 9	68. 3	66.8	74.8	
All milk, wholesale (100 lb.)6dollars	1.68	4.42	10 5. 11	4.84	7 4. 66	4.70	
Wool (pound)cents_ Other nonbasic commodities:	₹21.0	46.0	55. 2	51.0	51. 7	58.8	
Barley (bushel)dollars_	. 488	1. 37	1.38	1.37	1. 28	1.37	
Cottonseed (ton)do	25, 90	71. 60	67. 10	65. 30	64. 50	72.50	
Flaxseed (bushel)do	1. 62	5. 54	3.92	3. 70	3.54	4.54	
Oats (bushel)dodo	. 317	.852	.890	821	. 773	. 888	
Rye (bushel) dodododo	. 605	1.82	1.62	1.65	1. 57	1.69	
Sorghum, grain (100 lb.)	4 1. 21	2. 53	2.51	2. 74	2.65	9 2. 64	
Soybeans (bushel) do Sweetpotatoes (bushel) do	.996	2.84	2.78	2. 69	2. 63	2. 70	
By to the (100 lb)	. 964	2. 36	3.57 27.60	3.86 19.70	3. 84 18 80	2. 70 21. 20	
Beel cattle (100 lb.) do	7. 58 11. 0	20. 20 29. 3	27.7	26.5	26.6	30. 8	
Eggs (dozen)do	4 21. 5	46.6	10 34. 7	45.8	42.0	9 47. 0	
Hogs (100 lb.)	7. 30	21. 90	17. 20	17. 80	19.30	20, 40	
Hogs (100 lb.) dollars Lambs (100 lb.) do	8. 19	21. 90	26.80	20.30	20.40	22.90	
Veal calves (100 lb.)dodo	8, 43	22. 60	31.90	23.40	23. 20	23.60	
Oranges, on tree (box)do	8 2. 29	1. 23	.84	1.15	1.36	9 3. 24	
Apples (bushel)do	. 996	2.39	2.36	3.21	3. 19	2. 79	
Hay, baled (ton)do	* 11.87	22. 40	25. 40	26. 40	25.60	9 25. 09	

Adjusted base period prices 1910-14, based on 120-month average January 1942-December 1951 unless otherwise noted.

Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948 and 1949.

Preliminary. 8 10-season average 1919-28.

10 Revised.

distribut Act of 1935 as amended by the Agricultural Acts of 1945 and 1949.

3 60-month average, August 1909-July 1914 for all cotton.

4 60-month average, August 1909-July 1914.

5 Adjust base period price 1910-14 derived from 10-season average prices 1943-52.

6 Prices received by farmers are estimates for the month.

Transitional parity, 80 percent of parity price computed under formula in use prior to Jan. 1, 1950

Economic Trends Affecting Agriculture

Year and Production Industrial sproduction	trial	Total per-	Average earnings of	age sale	Index paid 14=1	by farm	of prices ers (1910–	Index numbers of prices received by farmers (1910–14=100)			
	pay- ments	factory work- ers per	com- modi- ties	Com-	Wage rates	Com- modities,	Livestock and products				
	39= 100) ¹	(1935- 39= 100) ²	worker (1910- 14= 100)	$ \begin{array}{c} (1910 - \\ 14 = \\ 100)^{3} \end{array} $	modi- ties	for hired farm labor 4	interest, taxes and wage rates	Dairy prod- ucts	Poul- try and eggs	Meat ani- mals	All live- stock
1910-14 average 1925-29 average 1935-39 average 1947-49 average 1950 average 1951 average 1952 average	58 98 100 185 200 220 5 219	100 294 330 370 388	100 232 199 462 516 566 595	100 143 118 225 232 258 251	100 151 124 240 246 271 273	100 184 121 433 425 470 508	100 161 125 249 255 281 286	100 161 119 275 247 284 302	100 155 108 224 181 226 203	100 145 117 334 340 411 358	100 152 115 291 278 335 307
Mareh April May June July August September October November December	221 216 211 204 193 215 227 5 230 5 234 5 235	382 382 385 388 384 393 5 396 5 391 391 394	588 574 581 585 573 5 591 5 611 5 615 5 617 631	252 251 251 250 251 252 251 250 249 246	275 276 276 273 273 274 271 269 268 267	510	288 289 289 286 286 287 285 282 281 280	305 291 281 277 286 295 307 316 318 309	177 180 175 181 208 225 227 228 238 221	372 372 394 380 376 372 349 328 310 291	310 306 313 306 312 316 309 301 295 280
January February				247	$\frac{267}{264}$	514	282 280	296 286	218 206	303 305	281 277

	Index numbers of prices received by farmers (1910–14=100)								Parity	
Year and month	Crops									
	Food grains	Feed grains and hay	To- bacco	Cotton	Oil- bearing crops	Fruit	Truck	All	erops and live- stock	ratio 6
1910–14 average 1925–29 average 1935–39 average 1947–49 avcrage 1950 average 1951 average 1952 average	100 141 94 246 224 243 244	100 118 95 223 187 220 227	100 169 172 384 402 436 432	100 150 87 262 280 335 309	100 135 113 319 276 339 296	100 146 95 195 200 193 195	145 95 214 185 239 254	100 143 99 246 232 264 267	100 148 107 270 256 302 288	100 92 86 108 100 107 101
March April April May June July August September October November December	251 250 245 238 230 236 240 240 248 247	229 229 227 226 227 233 234 219 213 218	435 436 436 436 436 428 429 412 428	309 313 303 319 311 319 329 311 288 268	284 279 280 289 307 310 305 304 300 300	176 179 190 220 214 206 200 215 195 206	265 308 285 250 287 229 182 189 238 256	265 272 270 277 276 272 264 260 257 257	288 290 293 292 295 295 288 282 277 269	100 100 101 102 103 103 101 100 99 96
1953 January February	245 2 40	214 206 .	419 424	252 255	291 287	208 209	237 237	251 247	267 263	95 94

¹ Federal Reserve Board: represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

2 Computed from reports of the Department of Commerce; monthly data adjusted for seasonal variation.

³ Bureau of Labor Statisties. Farm wage rates simple averages of quarterly data, seasonally adjusted. ⁶ Revised. 6 Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis.

Do Tenure Practices Retard Machine Harvesting of Cotton?

(Continued from page 14)

cost shares. In some cases, tenants in this area have found it pays them to bear the full ginning costs on machine-stripped cotton instead of the usual three-fourths, when they can thereby mechanize their harvest. Doubtless other measures also could be used to achieve the same purpose.

As the remaining technical problems of cotton mechanization are solved and the practice spreads through the southeastern Cotton Belt, the lease problem will still have to be faced. A combined research-education approach is clearly Further clarification the tenure influence upon machine harvesting is needed to provide the factual basis for adjustment. tional assistance to landlords tenants on cotton farms can then speed the shift from hand labor to The change should mean machinery. dollars in the pockets of both; and it can mean real progress in the Nation's effort to attain better utilization of manpower.

Joe R. Motheral Bureau of Agricultural Economics

Outlook Highlights

(Continued from page 8)

Fruits and Vegetables

Utilization of oranges and grapefruit through February 1 of the 1952-53 marketing season has been considerably heavier than a year earlier. Most of the increase, especially of has gone to canners and oranges. freezers. With production of oranges only slightly larger than in 1951-52, and of grapefruit moderately smaller, remaining supplies of each fruit, particularly Florida citrus, are considerably smaller than a year ago. prices for both Florida and California oranges advanced in late January and early February.

Stocks of commercially canned vegetables are generally adequate to meet demand at little change in price till the 1953 packs become available. Storage stocks of commercially frozen vegetables are very large, but there has been little or no indication so far that they are too large for the growing industry.

Farmer Gets Smaller Share

With marketing charges higher and farm prices lower, the farmer's share of the dollar consumers spent for farm-produced foods averaged 46 cents in the final quarter of 1952 compared with 50 cents a year earlier. Farm prices of food products declined during 1952 but increased marketing costs offset almost all the advantage consumers might have expected from these declines.

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BUREAU OF AGRICULTURAL ECONOMICS
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